

REMARKS

Claims 1-5, 8-12, 14, 15, 17-24, 27, 28, 30, 31, 33-36, 40-45, 47-50, 52-55, 57, 58, 60, and 71-83 are pending in this application. Claims 6, 7, 13, 16, 25, 26, 29, 32, 37-39, 46, 51, 56, 59, and 61-70 are canceled herein; claims 1, 4, 20, 36, 40, 42, 49, 52, and 58 are currently amended; and claims 71-83 are new. Support for the amendments and new claims can be found throughout the specification and claims as filed, e.g., at paragraphs 0009, 0010, 0012, 0034, 0038, 0047, 0049, 0050, 0069-0071, 0082, 0084, 0092, 0093, 0096, 0099-0102, 0108, 0109, and 0122-0126 of US 2004/0133114 A1.

Restriction

Currently, the examined claims have been limited by restriction to wild-type zebrafish. Applicants traverse the restriction on the grounds that the methods as claimed can be used with practically any zebrafish with the same method steps and outcomes. *See* MPEP 809.02 and 809.03, respectively. By dividing the independent claims 1, 4, 20, 40, 42, and 52 as such, the Examiner has denied the Applicants their statutory right to define their invention. *In re Weber*, 580 F.2d 455, 458, 198 USPQ 328, 332 (CCPA 1978) states that:

An applicant is given, by [35 USC § 112], the right to claim his invention with the limitations he regards as necessary to circumscribe that invention, with the proviso that the application comply with the requirements of § 112. . . . As a general proposition, an applicant has a right to have each claim examined on the merits. If an applicant submits a number of claims, it may well be that pursuant to a proper restriction requirement, those claims will be dispersed to a number of applications. Such action would not affect the right of the applicant eventually to have each of the claims examined in the form he considers to best define his invention. If, however, a single claim is required to be divided up and presented in several applications, that claim would never be considered on its merits. The totality of the resulting fragmentary claims would not necessarily be the equivalent of the original claim.

See also MPEP 803.02. Applicants submit that by dividing the independent claims as such, independent claims 1, 4, 20, 40, 42, and 52 could never be fully considered on their merits. Because Applicants have the right to have each fully examined on its merits, Applicants request

reconsideration and withdrawal of the Examiner's limitation of the currently pending independent claims to wild-type zebrafish.

Applicants wish to clarify that Group III, claims 61-64, as identified in the action dated October 10, 2006, is drawn to methods of identifying genes that affect a drug response, not methods of evaluating a test agent for the ability to modulate heart function as stated in the restriction requirement.

Applicants request consideration of whether new claims 73-83 may be subject to restriction.

Rejections Under 35 USC § 112, Second Paragraph

Claims 16 and 32 were rejected as allegedly unclear for not reciting when the permeabilization step takes place within the method or how it relates to the method of evaluating the test agent. Applicants strongly disagree. However, claims 16 and 32 have been canceled, solely to further prosecution.

Claims 32 and 49 were rejected as allegedly unclear as to what the average pixel intensity or density is referring. These claims have been amended to recite that the average pixel intensity or density of a video recording is measured. Applicants submit that this obviates the rejection.

Rejections Under 35 USC § 102

Claims 1-3, 9-12, 14-21, 23, 27, 28, 30-35, 40, 43-45, 47, 48, 52-55, 57, and 60 were rejected under 35 USC § 102(e) as allegedly anticipated by Zon et al. (US 2005/0155087) as evidenced by Serbedzija et al. (US 6,656,449). To anticipate a claim, the reference must teach every element of the claim. Zon et al. does not teach or suggest the claim elements of obtaining a recording of the zebrafish heart and analyzing the recording automatically using a computer program. Because Zon et al. does not teach every element of the claims, Applicants request reconsideration and withdrawal of the rejection over Zon et al. as evidenced by Serbedzija et al..

Claims 1-3, 5, 9-12, 14-21, 23, 24, 27, 28, 30-35, 40, 43-45, 47, 48, 52-55, 57, and 60 were rejected under 35 USC § 102(e) as allegedly anticipated by Serbedzija et al. However,

Serbedzija et al. does not teach every element of the claims. For example, Serbedzija et al. does not teach or suggest the claim elements of obtaining a recording of the zebrafish heart and analyzing the recording automatically using a computer program. Rather, Serbedzija et al. teaches that the embryos are “visually inspected for . . . heart rate” (see col. 23, lines 48-57). Applicants request reconsideration and withdrawal of the rejection over Serbedzija et al.

Claims 1-3, 9, 10, 12, 14-18, 20, 21, 23, 27, 28, 30, 32-35, 40, 43-45, 47, 48, 52-55, 57, and 60 were rejected under 35 USC § 102(b) as allegedly anticipated by Peterson et al. (Proc. Natl. Acad. Sci. USA, 97:12965-69, 2000) as evidenced by Serbedzija et al. However, Peterson et al. does not teach every element of the claims. For example, Peterson et al. does not teach or suggest the claim elements of obtaining a recording of the zebrafish heart and analyzing the recording automatically using a computer program. Rather, Peterson et al. teaches that the embryos were “examined visually with a dissecting microscope” (see page 12965, col. 2, first full paragraph). Applicants request reconsideration and withdrawal of the rejection over Peterson et al.

Claims 1-3, 5, 8, 9, 11, 12, 14-21, 22-24, 27, 30-35, 40, 43-45, 47, 48, 52-55, 57, and 60 were rejected under 35 USC § 102(a) and (e) as allegedly anticipated by Artemis Pharmaceuticals Inc. (WO 01/92874; referred to hereafter as ‘874). However, ‘874 does not teach every element of the claims. For example, ‘874 does not teach or suggest the claim elements of obtaining a recording of the zebrafish heart and analyzing the recording automatically using a computer program. Rather, ‘874 teaches “visually monitoring heart beat rate, rhythm of the heart beat, contractility of the heart and/or blood flow” (page 2, lines 17-18). Applicants request reconsideration and withdrawal of the rejection over ‘874.

Rejections Under 35 USC § 103

Claims 4, 36, 37, 41, 42, 49, 50 and 58 were rejected as allegedly unpatentable over Zon et al. as evidenced by Serbedzija et al. and further in view of Camm et al. (Eur. Heart J., 21:1232-37, 2000), alternatively over Serbedzija et al. in view of Camm et al., alternatively over

Peterson et al. in view of Camm et al., or alternatively over WO 01/92874 in view of Camm et al.

The office action indicates, at pages 8, 9, and 10, that none of Zon et al., Serbedzija et al., Peterson et al., or '874 teach measuring ejection fraction, contraction fraction, conduction velocity, repolarization, or QT interval, as recited in claim 4 or use of an EKG (claim 50) or measurement of QT interval (claim 41). The action alleges that Camm et al. remedies these defects by provide a teaching of measuring QT interval using EKG as a parameter of heart function. Applicants disagree, but have rewritten claim 4 in independent form and deleted the reference to QT interval. Claims 41 and 50 depend from claim 40, which recites the steps of "obtaining a recording of the zebrafish heart" and "evaluating a parameter of heart contractility in the zebrafish by analyzing the recording automatically using a computer program," neither of which are taught or suggested by any of Zon et al. Serbedzija et al., Peterson et al., or '874 (see above). Applicants request reconsideration and withdrawal of the rejections of claims 4, 41, and 50.

To establish a prima facie case of obviousness, the prior art references must teach or suggest all the claim limitations. The burden is on the Examiner to demonstrate why a person skilled in the art would have found the claimed invention obvious in light of the references (see MPEP 2142). The office action fails to state with specificity the reasons why any of claims 36, 42, 49, or 58 would have been obvious in light of any of the cited references. Rather, the office action only presents arguments regarding claims 4, 37, 41, and 50 (see pages 8-11). Applicants request clarification or withdrawal of the rejections of claims 36, 42, 49 and 58.

Claim 37 has been canceled without prejudice, thus mooting the rejection.

Double Patenting

Applicants take no position regarding the merits of the rejection for alleged double patenting, as neither application has been deemed allowable. However, if the Examiner maintains the rejection, Applicants request clarification as to how the pending claims conflict.

Applicant : Calum A. MacRae et al.
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Conclusion

The Applicants respectfully submit that all claims are in condition for allowance, which action is expeditiously requested. The Applicants do not concede any positions of the Examiner that are not expressly addressed above, nor do the applicants concede that there are not other good reasons for patentability of the presented claims or other claims. No statement made herein is an admission that any claim or invention is not patentably distinct from another.

Submitted herewith is a Petition for Extension of Time. Please apply the fee and any other charges required to maintain the pendency of this application to deposit account 06-1050, referencing Attorney Docket No. 10284-077001.

Respectfully submitted,

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